

GEOLoGICAL FIELD BOOK

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U.S.A.

A

Roll 44-1 - Ekblaw & Hunt in  
cabin of Cluett 8.II.16 flash

44-2 Ekblaw & Hovey do

44-3. 22.III.16 Captain Pickett  
feeding some dogs. P. S. B.

44-4. 22.III.16 Schooner  
from the south

44-5. Tah-ti'ag and his  
dogs beside the "Cluett" on his  
arrival from the south 1/4/16

44-6. Parker Snow Boy  
Bantina & Erik 2/4/16

S.E. 12 m -  $1/2^{\circ}$   
B

1  
5 April, 1916. The "big gulch" two miles west of the schooner originated in the corrosion and erosion of a massive dike of diabase (?) which cuts the pink gneiss vertically and trends essentially N.-S. The dike is about 125 feet wide as exposed in the bay shore cliffs. Specs. 651 + 652 (duplic.) were taken about 25 feet from western contact. The basic dike is crossed at right angles by 4"-12" dike of light gray rock containing much biotite. Specs. 653, 654 (duplic.) + 655 (showing contact with the diabase).

5 April. Spec. 656. Eskimo skull - gift of H.C. Pickels

15 April 1916. Height of Cairn Mt., being the peak on which Mrs. Ekblaw and Captain Pickels built a cairn of rocks on or about 12 Feb. 1916. This is the highest point within sight from the vessel and rises beside the big glacier ("Cluett", earlier "Comer" glacier) and between that and the double-ended glacier ("Comer", earlier "Cluett" glacier) on the south.

Dr. H. J. Hunt started from ship at 10:45 with my barometer <sup>aneroid</sup> reading +700 ft or 30.204 inches + thermom. +1° and ship's aneroid reading 29.90" - See next page for table

15 April, 1916

30.20.  
27.75  
2.45

Time	Station	Altitude	Barometer
10:45 A.M.	Shift and Museum	700' (30.20")	29.90" <sup>20.10</sup> +1° East
11:15		29.90	4. J.H.
11:45		29.90	1600' 29.225 (2m) +3
12:15		29.90	
12:45		29.92	3000' + 27.75" +6°
1:15		29.92	
1:45		29.92	
2:15		29.925	
2:25			750' 30.15

This gives elevation as being 2300 feet above the sea. [Or 2275 as av. of up + down readings]  
 Top of glacier (front as we see it fr. ship) 900 feet  
 Advance guesses were

Captain Pickels	- 1200 ft
Dr. Hunt	- 1175
Mate Davis	1250
Norman	1500
Chief Cotton	1100
Dr. Horsey	2000

Dr. Hunt reports some E. wind on the summit. - Very keen. Temperature seemed 5°, at least, colder than when he left ship.

20 April. Cray abreast of schooner.

I started about 2:15 p.m., clear, cloudless sky and moderate westerly breeze with temp. about +12° F for top of cray via big gully east of the igloo.

Aneroid reading	sea level	Dif
3 p - east knoll above igloo	100'	825' 725'
3:15 p - highest point of cray		885' 785'
4 p - sea level		75 810'

Average of up & down 797.5'

∴ call altitude 800 feet.

Ledges of gray banded gneiss are exposed in upper part of gully up which I went. Much hornblende. Squeezed band of highly serpentinized rock is evidently strongly metamorphosed dike.

Red and pink loose fragments are not quartzite but weathered gneiss.

13 April. 46-1; 8-04 Pudlak and Kashingwa packing kamariks beside meat cairn near igloo.

✓ 46-2; 8-04 Pudlak's igloo with himself and family standing at the entrance.

46-3; 8-02 Kashingwa starting from ice foot

46-4; 8-02 Kashingwa and Pudlak start. ing from ship at 12:40 p.m.

16 April - 46-5; 8-04 E.O.H. in full

costume for walking in cold weather, when  
calm or moderately windy. Journal Green  
III, p. 101.

46-6; 8-04. E.O.H. in full costume for  
cold weather sledging. III, p. 101.

22 April - 47-1; 8-02 Ridges and furrows  
in surface of big ("Clueit") glacier at head  
of Parker Snow Bay. 900 ft. A.T. 12:45 p.m.  
Ridges are most probably result of  
wind action on winter snow, forming  
longitudinal drifts which have consoli-  
dated into ice. N. W.

47-2; 8-04. Moat between glacier and  
eastern end of first mountain ridge  
on southern side of Clueit glacier.  
Produced by prevailing wind coming  
from mountain side during snow  
storms and snow drifting. Bottom  
of moat in its upper portion is about 1130 feet  
above sea by aneroid measurement.

24 April. 47-3; 8-04 Kudluktuk's  
team and dogs about ready to  
start for Umanak with load of 8 bags of  
coal and case of milk. Fully 800 pounds.  
17 dogs - 11:15 a.m -

47-4; 8-04. Bird Cliff west of big gulch about two miles from schooner. Shows pin-nacle, great sill of diabase in the gneiss, elevated sea-grotto about 60 feet above the bay.

47-5; 8-02. Grounded ice berg and its ice foot. North side bay about 1 mi. from ship. The ice foot shows pressure and movement.

25 April - 47-6; 8-02. Crew at work cutting ice away from about and down -

26 April. Overland from bight (cache) near Cape Dudley Digges to mouth of big gulch. At and near cape rock is dark gray hornblendic gneiss strongly and intricately contorted. Many veins of quartz and of pink feldspar. Bight is northern end of small valley crossing the point and rather deeply incising it. Probably due to corrosion of basic dike, but now filled with mass of fractured rock from the adjoining walls of gneiss, particularly on the west. At crest there is quite an area of flattish grass and moss covered earth, which evidently is very fertile. Grass grows luxuriantly and the place is a great resort of rabbits (hares). Noted large diabase dike on plateau trending about S.E. - N.W. Frost disintegration of rock

beautifully displayed everywhere of course -  
down to fine earth. Fragments are  
~~all~~ mostly subangular to rounded.  
Sharp angles only on masses recently  
broken from the ledges. Saw no er-  
natics of quartzite, all boulders seemed  
to be immediately local.

May - 9x 16-1 - 4:35 Peter Forester in  
browsing dog tracks.

9x 16-2 4:35 Peter Forester as if ar-  
riving from Cape fork to Prob n go

May 9x 16-3 4:35 Bld cliff north  
side Parker Snow Bay to show great  
sill. Cliff is about 900 ft high.  
Country rock is of such dark red  
and orange hues that it is somewhat  
unlikely that the black sill will  
be prominent in the photo.

Sill has some large boulders  
of gneiss in it. What I took for  
~~the~~ last fall for the upper limb of  
an inclined V-shaped ~~fold~~ intrusion  
is either an older ~~intrusion~~  
~~or (more likely)~~ the hornblende  
gneiss lying on the feldsparitic  
gneiss. The big diabase (?) sill cuts  
into the hornblende gneiss at

the angle of the V and separates it from an underlying projection of the feldsparitic gneiss which contains in places heavy hornblende bands -

Spec 657 ~~658~~ of diabase from large fragment fallen from the sill

The sill disappears beneath the sea 25-30 yards west left of snow filled gully showing at left of photo

✓ 9x 16-4; 4/65 Small rounded interc. near Broken Rock point - Snow drift and moat on windward (S.E.) side -

West of Broken Rock Point a horizontal dike or sill of diabase 100± ft thick is exposed in the hornblende gneiss. Projection into gneiss shows irregularity of fissures. Much more altered than the big sill already mentioned

Hornblende gneiss continues to Cape on a low ridge. Its boundary with the feldsparitic gneiss lies along top of Bird Cliffs.

Rocks loosened by heat roll down cliffs. Thunderously

Rock fragments on snow and ice  
are sinking rapidly. They form little  
pools about them. Picked a rock  
out of its way & had a refreshing  
drink.

Yesterday dug down four snow  
2-3 inches into the snow.

Heard birds - pipit and  
Bunting. Saw before

Many streamlets trickle down cliff

7 May -

✓ 9x16-5-4/75 Captain Pickett and crew of "Cluett"  
(except Charlie & Ralph?)

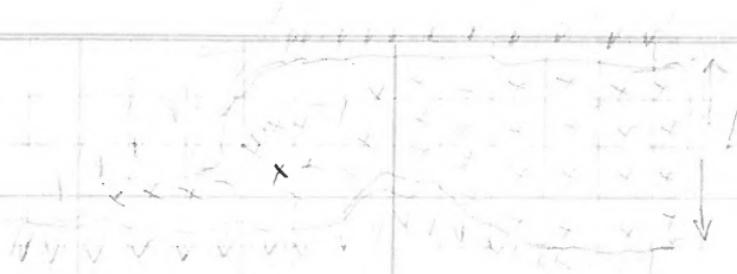
9x16-6-4/75 Do with Charlie & Ralph

✓ 16-7-10 all 4/75 Men in groups of two each -  
7 - Capt. & mate. 8 - Norman & chief 9. Ben & Taylor 10 - Ralph & Much

✓ 16-11-12 - 4/75 Crew.

N.B. Promised copies to the men.

8 May - Extremely fine grained black  
basic (diabase?) dike in the gray hornblende-  
biotite gneiss at sea level about  $1\frac{1}{2}$  mile  
west of big gulch in the Bird Cliff.  
Sends out stringers into the gneiss  
which are inch or less in thickness and  
pinch out.



659. Middle of six foot part of dike.  
The whole dike is extremely fine grained

660 - Dufe of 659

661. Stringer in the gneiss, preserving both contacts.

662. Dufe of 661

663. Stringer in gneiss, inclosing slice of gneiss in the diabase

664-667 Soapstone from 12-18" zone ~~of~~ in ~~southeast~~ talcose <sup>mineral</sup> schist in gneiss  $\frac{1}{2}$  -  $\frac{3}{4}$  mile east of big gulch north side Parker Snow (Chuett) Bay - =  $1\frac{1}{2}$  mi from head of bay.

668. Biotite + Steatite lenticule from talcose schist at Eskimo soapstone "quarry"

The Eskimo "quarry" from which

Pedtlak and others have gotten soap-stone from which to make lamp-stoves and pots is about 20 feet above sea level in the face of the gneiss cliff about  $1\frac{1}{2}$  miles from the head of Parker Snow (Cluett) Bay, north side. The belt of slate of fairly good quality is 12-18" thick and trends  $190-195^{\circ}$  magnetic ( $= E 10^{\circ}-15^{\circ} S$ ) [but perhaps variation is greater than  $90^{\circ}$  here or some local cause affects compass, for this reading seems to be too great by twenty degrees] Dip  $70-85^{\circ} N.$  Zone of serpentinized or talcose biotite schist is 6 to 10 or more feet wide in hornblende-biotite gneiss. Outcrop of the zone can be traced 200 yards or more in face of cliff rising toward east.

Spec. 69 - Rustic's pyrite fire ball. Gift of Melville Cotton

14 May. Gx 17-1. Alakutseak (= Alacokah) beside his kamatik on wh. isashed a kayak.

17-2. Missionary and wife loading their kamatik. He is moving from Kiatek to the vicinity of Cape York

17<sup>7</sup>  
Fx. 3. Sigdlu and Mene beside Kamatik

17-4 Egingwah & Sigdlu beside latter's  
Kamatik just before he started for Cape York.

16 May. ✓ Fx 17-5,  $\frac{4}{7}$   $\frac{1}{5}$  Lower (western) end of big (Cluett) glacier from top of large gneiss erratic about  $\frac{3}{4}$  mi. distant. Shows ~~is~~ vertical ice front flanked by the incurving ends of the two main lateral moraines

✓ 17.6  $\frac{4}{7}$   $\frac{1}{5}$  Vertical ice front of Cluett glacier from point on outwash about 200 yards away. Shows curved and overturned and folded ice-and-dirt bands at right and nearly straight bands in center of field. In lower  $\frac{1}{3}$  one-third of the vertical face a band of dirt varying from 6" to 24" or 30" in thickness is prominent, the wash from it soiling the edges of the ~~the~~ adjacent ice layers. Debris consists of abundant fine gray sand and mud containing great numbers of boulders of gray and red gneiss. In the lower left hand corner of the view are three or four large blocks of ice-and-dirt which fell last winter from the vertical ice front. Stones constantly loosen and roll down from the thick layer of dirt making a great noise in the Arctic stillness which is

disturbed only by the purring of the stream  
of water flowing from the glacier.

Many icicles should show in the photo,  
but the beautiful screen composed of thousands  
of them which characterised the face a  
month ago has largely disappeared.

9x 17.8  $\frac{4}{5}$  Close view (50 ft.) of a part  
of the ice front of the "Cluett" glacier showing  
overturned folds and sigmoid flexures in  
the layers composing the glacier.

9x 17.9  $\frac{4}{5}$  10  $\frac{4}{5}$  Oogniak, wife and  
two children standing beside Eriks tipic  
on the beach at the head of the bay.

17 May 9x 17.1  $\frac{4}{5}$  12  $\frac{4}{5}$  Atenugana  
seated on her sleeping furs on the beach  
sewing on some mittens.

Spec. 670. Atenugana's stone for rubbing  
skins. It is a prismatic fragment of trap  
rock, which she thought would interest  
me on account of the marks in one end  
which <sup>she</sup> compared to bundles of sinew.

25 May. 9x 18.1-6 aee  $\frac{9}{25}$  Overcast sky & foggy -  
1/2 E.O.H. in full costume for cold weather walking,  
when calm or moderately windy.

2. Do. using netsha hood à la Eskimos.

✓ 3. E.S.H. in full regalia for cold <sup>east or windy</sup> weather kama-  
tik riding as passenger, including caribou  
skin muff and fox tail face protector.  
(G. Greenland Journal III p. 108.)

4. Failure

✓ 5. E.S.H. in sledging costume as worn usually  
by Eskimos, i.e. without outside kamiksputks. (But  
Ishlu. have worn seal skin instead of bear skin mittens)

✓ 6. E.S.H. dressed as passenger for kamatick  
riding in ordinary cold weather.

27 May. ✓ Two reels with the Sennemann  
motion picture camera of little auk  
flying, perching and billing and cooing like  
doves on the talus slope and cliff near  
the new coal cache about 200 yards from  
the "Cluett".

2 June. Spec. 671 - Beach pebble of green  
cut by basic dike. Pretty faulted.  
Head of Parker Snow Bay.

5 June - 18, 7  $\frac{1}{2}$  s; 8, 8  $\frac{1}{2}$  s; 9, 8  $\frac{1}{2}$  s, 10, 9  $\frac{1}{2}$  s Captain  
Pickett in his furs - 7 + 8, wood back; 9 + 10 hood on -

✓ 18-11  $\frac{1}{2}$  s Loading a cask of water on to the Cluett

✓ 18-12  $\frac{1}{2}$  s Head of bay and Cluett (nor-  
thern) glaciers from beside the vessel.

✓ 19-1  $\frac{1}{2}$  s 5. 6. VI. Loading water on to Cluett.

6. VI. Spec. 672. Beach pebble of augen gneiss from elevated beach at head of bay near igloo.

8. VI. 19. 2 8/75 Parker Snow Bay looking W from "Cluett". Effects of a June snow storm

11. 9. 3 8/75 Do. looking E. N. E.

11. 9. 4 8/90 Do " S. W.

11. VI. Spec. 673. Basic dike (hornblende) in gneiss. Talus slope at Inugssok (Igloesok) Parker Snow Bay, Greenland

674. Do. To be cemented to 673

The amount of more or less schistose (i.e. very strongly sheared) augen gneiss in large and small blocks on the upper plateau is large. These seem to be erratics. Where is ledge?

13. VI. 9x 19. 5 8/35 and 6 to 10 all 8/65. Bright sunlight about 2 p.m. ED in fine, repeating 18-1-6 to secure better map. 8-double ex N.B. Chief Cotton snaffled the canvas & I promised him a pint of the full costume.

14. VI. 9x 19. 11 ~~8/295~~ 8/295. Diab. rocks on talus slope above point where lumber was piled

✓ 19.12 8/295- Cliffs and little aukts above same point.

✓ 20.1 8/90 Do -

✓ 20.2 8/90 Head of bay & menatakt glacier. "Clust" skin foreground at right. Some little aukts shld. choir.

✓ From cliff pinnacle ca 200 ft. above lumber point.

✓ 20.3 8/295 Little aukts perched } Taken slope directly

✓ 20.4 8/295 Do. flying } abreast of the vessel.

16. VI. 9x. 20. 5-12 ~~all~~ 74 8/50; 6, 8/90; 7, 8/75; 8, 8/65; 9, 8/65; 10, 8/65; 11, 8/65; 12, 8/65

Series of E.O. 26. in fur costume. Taken by chief because the preceding set were not sharp.

✓ 1- Netsha, sealskin mittens, bearstkin pants, kamiks, cap

16-1

✓ 7 & 8 - Do. but wearing hood Eskimos style

✓ 9 - Koolelah (hood back) bearstkin mittens, bearstkin pants, mausakes, kamiks

✓ 10 - Do. (hood forward) sealskin mittens &c

✓ 11 - Do. bearstkin mittens

✓ 12 - Koolelah, bearstkin mittens, bearstkin pants, kamiks, mukpuks, muff & face protector. mausakes

17. VI. 9x 21-1 & 2 8/65 Ben, Chil & Chahie. Flying little aukts on deck for feeding

✓ 21. 3 + 4 <sup>no</sup> / 550, 576 <sup>no</sup> / 1000. Flying little aukts  
17 + 8 } in gulch S of village

675 - Beach pebble. Igissok (Inugivissok)  
Parker Sloop Bay - Anqutqeqissi  
(Schistose)

21 VI. 21. 9±10 - 8/15±30 sec. Cabin stove.

Spec. 676 & 677 Quartzite from ledge  
north side Cluett Glacier (the big one) about  
2 mi. from schooner. The fragments were tak-  
en from loose blocks, but the ledge is there  
and shows dip of  $30^{\circ}$  -  $35^{\circ}$  N. (a guess).  
The quartzite overlies and perhaps is  
intercalated with a highly fissile mica  
or hydro mica schist. It also overlies  
the gneisses.

24 June. Temp in shadow of meat rack at Pond 1-

lateral Taylor at 12:40 p.m.  $43^{\circ}$  F [in sun  $47^{\circ}$ ]

Barometer set sea level at 12:30

1:30 p.m. 225 ft. up on face of cliff west  
side of first 180' of glacial 1,000 ft. in 10.600  
in my own shadow  $42^{\circ}$  [sun  $44^{\circ}$  to  $50^{\circ}$ ]  
across the glacial surface bedded  
or against dark object.

All up this face is green mostly

+ micaeous with bands of horn  
blend + biotite and strong veins of quartz

2105 ft. 350' A.T. in shade S. side green  $42^{\circ}$

Green is very schistose here. Contains  
epidiorized bands + quartz lenses  
dip always N.  $35^{\circ}$  -  $40^{\circ}$ . Slope covered with slide

At 450' sericitized quartzite (?) con-  
formable dip Spec 678

(150-200 yds distant)

17

Next northern knoll, overlooking the lake of course, is a banded rock but a banded quartzite with much micaceous. 679

Climbed 30-40 yds here & then collected

Sp. 680

Micaceous quartzite 7' 6" - 10' 0" from small banded dolce. 575! A.T.

If these be really quartzite, the Huronian is to be considered to be the top of this cliff of rock if I am not deceived. A number of green

loose blocks of impetuous quartzite fall on top of the eastern knoll (forming west side of gully) at base of cliff 760' A.T. I could swing right westward along base of this bounding northward, near base of cliff directly above Pudlak's igloo <sup>or at any rate against</sup> on the high point in which cairn was built ~~so that~~ the species which seems to be of green 3:30 p.m. Base of cairn 760' A.T. Cairn measures 7' 3" high on east side

28 June. Climbed shallow gully and face of cliff 200-300 yds east of Pudlak's igloo and found Huronian quartzite and schists forming upper 200 feet of the cliff.

Is there a fault between this knoll and the cairn cliff, traversing and causing the larger gully directly above the igloo?

15 July Went ashore with Captain Gomer

He took photos of old trap site, Midway.  
Later in afternoon from S.E. and the oldest  
isopods here. This is on the edge of the shore  
cliff near Pardale's and has been  
one third to one half cut away by the  
slipping off of the gravel + pebble cliff  
which is 15-20 ft high, with overhang.

Remember erosion may have been done by  
the tidal wave which swept these  
islands according to local report by Peter  
Frenchen at the Estuaries in spring

1912. Strongly felt at Seward.

Photos for S.E.

Went up face of cliff by means of  
gully  $\frac{1}{3}$  mi west of ship. Saw no  
Quartzite in talus or in place  
but on plateau at head of gully +  
for  $\frac{1}{2}$  mi W saw many large  
blocks of gray + yellowish gray  
Quartzite. Apparently not far  
from source. No areas of brownish  
schist near brink of cliffs. Mostly  
debris blocks + boulders of gneiss. Went  
westward along edge of plateau to  
border of Horns Head. Nothing  
but gneiss in angular + rounded  
blocks + some hornfelsite.  
Surprising amount of sandy  
soil on plateau.

North Star Bay (19)

✓ 1-12 8/90 *Tinga canutus* nest, clutch  
9x-22- *Tinga canutus* nest, clutch  
[22.2+11] <sup>8/90</sup> *beancs* + young - taken by W. E. Ekblaw

1-13 2 beancs 8/90 *Tinga canutus* by W. E. E.

114. VII 8-10 8/25 *Tinga Baicali* young.  
posed by W. E. E. near house  
at North Star Bay, taken by W.E.E.

114. VII 11 - 8/75 C.L. Expd. quarters at  
North Star Bay 80ft.

112 8/65 Beach embankment formed  
of shingles by pressure of ice  
foot. Rasmussen's station "Three"  
in the background 80ft

N.B. 23-7+8 may be transposed  
on acct of some uncertainty in banding -

15. VII. 24-1+2 Dog caught by tide

15. VII. 24-1 <sup>8/75</sup> Old house (Habicht)  
at Three

115. VII 24-3. 8/25 Habitat of snow bunting.  
7 p.m.

124.4 8/25 11 p.m. Umanak Butte fr. m. house.

16. VII. 24.5 8/75 Umanak Butte fr. m. house 10 a.m.

- 6- 8/35 Snow bunting habitat, general.

- 7 8/36 Do. with bird itself on rock

- 8 8/25 entrance to snow bunting's nest (6 ft.)

- 9 8/25 " " " " " " " " (6 ft.)

- 10 8/26 " " " " " " " " (4 ft.)

24 ✓

17. III 11-8/10 Entrance to snowbunting  
nest, with male about to feed the young

✓ 25-1, 2, 3

24-12 ~~13, 14, 15~~ all 8/10 Young snow bunt-  
ings in the nest

25-4. 8/10 Banding a young snow bunting #12,219.

25-~~5~~ 8/10 Eider duck nest with three  
eggs: Islet near the Eskimo tipies.

25-6. 8/20 Do.

25-7 ~~8~~ 8/20 Umanak Butte from the islet  
to show buttresses of Huronian beds under  
the diabase cap.

25-8 ~~7~~ 8/10 Tern's nest on islet

18. VII 25-9 8/25 Astrup's monument from  
N.E., near view

25-10- <sup>8/50</sup> Do fr S.E. more distant view

25-11 8/65 Thule Station headquarters  
Peter Faenchen on piazza

25-12 8/65 Lange Koch, W.S. Ekblaw  
+ dogs in front of Thule house.

All snakes but varying times of year.

19.VII By W.S.S. ✓ 26.1 Nest of Old squaw  
near river

✓ 26.2 Do. but further off.

✓ 26.3 Young Lapland longspur.

✓ 26.4 Nest & eggs of loon - near river

✓ 26.5 Site of nest of loon

✓ 26.6 Do. at right angles to No. 5

✓ 26.7 Knot & two young.

✓ 26.8 Do.

✓ 26.9 Wind blown silt in stream valley.

✓ 26.10 Cassiope association on  
glacial dune.

✓ 26.11 8/35 <sup>2</sup> Navrana, Alnaloongwa  
and Inuak <sup>3</sup> beside house.

✓ 26.12 8/65 Do. but light struck.

N.B. The girls were just starting to climb the Umanak, Navrana carrying her 9-day old baby in her hood.  
Later they did not go up the butte.

8/65-

20.VII. 27.1. Group of igloos at Umanak,  
~~North Star Bay~~. Westernholme Sound.

27.2 8/50 One of the igloos at Umanak, ~~A.S.B.~~  
(Egingwag + Alnaloongwaq)

27.3 8/50 Excavation in refuse heap near  
old igloo Umanak, ~~A.S.B.~~

27.4 8/50 Two old Eskimo graves at Umanak, ~~A.S.B.~~

27.5 8/25 Near view of clump of poppies  
on shingle flats, North Star Bay.

27.6. 8/50 Tufics at Umanak, ~~A.S.B.~~ 8/50

27.7 8/35 Pond and tufics at Umanak,  
~~A.S.B.~~, with patches of cotton grass  
(Eriophorum Schenckigeri) in foreground.

27.8 8/35 Innasok <sup>ho</sup> washing a netsha in a  
pond at Umanak, ~~A.S.B.~~ 6 p.m.

27.9. 8/35 Innasok <sup>2</sup> <sup>ho</sup> and Alnaluungwaq  
+ South Greenland child standing in front of  
Egingwa <sup>(Harrigan's)</sup> <sup>badus</sup> tufic. 6 p.m.

Ewikist

21.VII. 27.10 8/35 Patches of Eriophorum Schenck-  
zeri with pond + tufics in background 10a.  
looking ~~N.W.~~ Umanak

27.11 8/50 General view of pond near  
<sup>south side</sup>

typies at Umanak, looking S.W., to show three plant zones on border: Eriophorum Schenckianum on bank, Ranunculus hyperboreus floating on the water and Hippuris vulgaris submerged with tops of stalks showing.

27.12 16/10 Eriophorum Schenckianum, close view of a small clump.

Spec. 681 Diabase from the large surface of ledge rock exposed near our house.

Spec. 26

131.811 - 28.1 (Graphic) 64/5 Quadrat of willowies near igloos at Umanak.

128.2 8/25 Do

128.3 64/5 Looking N.W. from Umanak - Edge of Umanak Brule, Westenholme Is.; Saunders Is. with 3 igloos in foreground (Dalmatian Rd.) Early Inuktitok & another.

128.4 32/5 Quadrat of Ranunculus near igloos Umanak

128.5 8/25 Do

128.6 32/5 Diabase boulders on ledge at Umanak. Split by frost?

✓ 28-7  $3\frac{2}{5}$  Pond at Umanak to show  
Pleurozogon Sabinei, looking N. 2

28-8  $12\frac{1}{5}$  Do in attempt to get the  
background of Westerholme Sowell  
Rasmussen Glacier at night.

✓ 1. VIII. 28-9  $3\frac{2}{5}$  (Overcast) Our sleeping tent,  
✓ 28-10  $3\frac{2}{5}$  Front cliff boulders }  
3. VIII 28-11 + 12 W.A. 32. time } N. S. B. looking  $\frac{1}{2}$  W.  
✓ 29-1 DO. } including whole bay  
✓ 29-2 W.A. 32. time. North Star Bay looking  
SW. including P. French's house  
but not quite all of the bay.  
✓ 29-3.  $6\frac{1}{2}$  "  $3\frac{2}{5}$  } Panorama N. S. B.  $\frac{1}{2}$  "  $\frac{1}{2}$   
✓ 29-4 " " " " "  $\frac{3}{4}$ .  $\frac{1}{2}$

Be sure to send K. Rasmussen prints  
from these photos. of N.S.B. face from  
ice. Also send him one of the W.A. negs.

Soil flow is well shown all over the  
sloping plain east and SW of French's  
house and the "earth glaciers" vary in  
height at their lower ends from 1 to 4 feet.  
The latter, which reach the edge of the bay,  
are 50 to 100 feet long. Stream trench-  
ing is here with raised banks or dikes  
well developed as a result of frost action.

✓ 6. VIII 28.10. 3<sup>2</sup>/<sub>5</sub> Umanak. <sup>NSB</sup> Frost-split block  
of quartzite on the plain.

✓ 29.5 3<sup>2</sup>/<sub>5</sub> Umanak. <sup>NSB</sup> Frost-split block  
of slaty rock (diabase?) on the plain

✓ 29.6 3<sup>2</sup>/<sub>5</sub> Umanak. <sup>NSB</sup> Tilted stones and  
raised dike-like side (down hill side)  
of furrow formed over subsoil  
drainage channel.

✓ 29.7 8<sup>1</sup>/<sub>2</sub> Thule view from in front of our  
house, west half North Star Bay 7.1.m

✓ 29.8 8<sup>1</sup>/<sub>2</sub> Do. east half

✓ 29.9 4<sup>1</sup>/<sub>2</sub> 8p. Umanak. Flitch of narwhal  
meat drying on diabase cliff near  
igloos. Taken from canoe.

✓ 29.10 8<sup>1</sup>/<sub>2</sub> 8pm. Umanak. Igloos from  
off shore in canoe. Erik + Pauline  
are standing in front of one. Shows  
9.C.s diggings at the left.

✓ 7-VIII-29.11. 6<sup>1</sup>/<sub>2</sub> Umanak Rock (diabase)  
shore near igloos to show rounding  
effect of frost action below high tide  
mark.

✓ 29.12 6<sup>1</sup>/<sub>2</sub> Do 30yds N of preceding

29<sup>th</sup> (Written 7<sup>th</sup> VIII) Went with Ekacross the plain and part way up the Umanak. He called my attention to the dike-like embankments along one side - usually, if not always, the downhill side - of the furrows running over the subsoil drainage lines. Probably connected with freezing and thawing above the ice table. The subsoil drainage seems to follow cracks produced by shrinkage at and below the level of the ice table. Flat stones stand on edge and usually are arranged lengthwise of the furrows. Phenomenon of the unequal removal of sand in soil.

Spec 682 & 683 are slabs of Huronian shale showing fossil mud cracks.

Spec 684 ~~Katnolite~~(?) Aragonite (?:) filling of crevice in the Huronian. Much of this material is scattered in fragments over talus slopes and plain.

8 August. Visited top of Umanak Butte with Ekblaw, Dr. Hunt accompanying us to the base of the vertical, 60 foot cliff formed by the edge of the diabase cap of the butte. Buttresses of Huronian

slates, shales and quartzite at about 550 ft. above the sea (aneroid). These dip gently toward the west or south of west, and this is the highest exposure of them in the hill, <sup>their</sup> upper limit above the slope topping the buttresses and at the lower contact with the diabase being about 600 feet above tide. Where we scaled the cliff the diabase sill is about 60 feet thick. This seems to be its thinnest part. The upper surface of the plateau is roughly oval in outline, with its longer diameter running approximately E.-W. for about 300 meters. The surface of the plateau is gently undulating in contour and its highest part is about 710 feet above the sea. Its general slope is slightly toward the W.S.W. The sill of diabase thickens toward the west and <sup>thick</sup> is not less than 100 feet at the western end of the butte, where the diabase rests on massive buttresses of the sedimentaries. The effects of chemical weathering and mechanical disintegration are prominent in every direction, - oxidation with and without hydration, flaking and rounding of corners and edges, polygonal cracking on vertical as well as horizontal surfaces, sand and gravel, "desert varnish", carving by wind and wind blown sand (and snow?) Induration of the surface rock is particularly shown along

crevices. In many places on the plateau these crevices are marked by a wall 2 to 4 inches wide and 1 to 2 or even 3 inches high, extending in straight or nearly straight lines for several or many yards.

Ek's photos - Exposure 2 + 3  $\frac{1}{2}$  A. A pillar of disintegrating rock shaped like the bust of a woman. Ek 4  $\frac{1}{2}$  A. Escarpment at western end of the Umanak.

Spec. 685. Fine-grained diabase from <sup>very</sup> ~~near~~ <sup>contact at</sup> base of escarpment eastern end of Umanak Butte showing development of magnetite crystals by fumarole action along crevice. 600' A. T.

Spec. 686. Diabase from about 2 feet ~~from~~ <sup>to</sup> contact at base of escarpment eastern end of Umanak Butte. One face shows groups of small pyrite xls and epidote (?) on old fissure surface. 600' A. T.

Spec. 687 Diabase from about 2 ft. from contact at base of escarpment eastern end of Umanak Butte. Duplicate 600' A. T.

Spec. 688 Diabase. Coarse grained. Eastern end Umanak Butte. 600' A. T. Lower part of sill

11. viii. 30-1  $\frac{8}{65}$   $\checkmark$  Umanak. View up (N.E.) Wostenholme Sound to shore ice +

beeps in the fjord. Egingwah's & Egingwah's  
with Badris topics in foreground.

32.2  $\frac{8}{65}$  Unnarrake looking W or NW.  
across Worcester Bay toward shore  
bees. Neputislasoki (Pangasius) tri-  
pic & found with *Floripava* in  
foreground.

11. VIII. 1916. Went with Ekblaw to cliffs  
of Huronian sediments forming  
south side of North Star Bay and  
at about one-half mile from head of  
bay collected Spec. 689, 690, 691.

Of the aragonite (C) and calcite and  
aragonite (?) bands intercalated  
with the shales. In the two specs.  
(690 & 691) wh. show calcite, that  
is above the aragonite in position.  
There are many of these bands in  
a zone not less than 15 or 20 feet thick  
and they extend for long distances  
with much regularity of thickness,  
though all are thin. As shown in  
these specimens the bands  $1\frac{1}{2}$  - 2"  
thick contain partings of shale.  
None that I saw exposed here showed  
clear aragonite (?) as thick as  
spec. 684 from loose fragments on  
the Unnarrake Butte.

12. VIII  $9\frac{1}{2}$  30.3  $\frac{8}{35}$  ✓ North Star Bay from point near house. Very cloudy.

13. VIII - 30.4  $\frac{8}{35}$  ✓ Knud Rasmussen standing beside his house at Thulé, North Star Bay.

30.5  $\frac{6}{6}$   $\frac{8}{50}$  ✓ The Eskimo dog "Saint Peter"

25 Aug. Went to head of Nortenholme Sound in the motorboat "Inger Lis". Moltke Glacier (fide Rasmussen) has advanced greatly in past three years. Judging from point which he pointed indicated as its front in 1913, I should think the advance to be — more than a mile.

Low promontory near head of fjord, south side, is gray greenish. Fine old stone igloo — all stone even in roof, no wood. Last occupied by Esk. in winter 1907-8 (or 06-07?)

(26x)

15. VIII.  $9\frac{1}{2}$  32.1  $\frac{1}{60/55}$  ✓ Fitz Clarence Rock, Booth Sound, from N. W. at 8 $\frac{1}{2}$  p.m. Basalt cap on sediments — a cylinder standing on a regular cone.

16 VIII  $9\frac{1}{2}$   $\frac{4}{60/55}$  ✓ Narsak. Ca 9 a.m. Three Eskimos in kayaks — Kusluk (Kood-look to of Peary & MacMillan) Kakatiak and Innak (son of Kolutungnak).

32-3  $\frac{4}{50}$  ✓ Narsaq. <sup>(Astup)</sup> Inniskin kayak.

32-4  $\frac{8}{100}$  ✓ Narsaq <sup>a</sup> valley and small pied-mont glacier east of it. From the N. on the moving "Ingerlis".

32-5  $\frac{8}{100}$  ✓ Northumberland Island from the S.E. From moving "Ingerlis".

32-6  $\frac{8}{100}$  ✓ Eastern part of southern coast of Herbert Island from S.W. From "Ingerlis".

32-7  $\frac{8}{100}$  ✓ Ulugset, Herbert Island. Western part of settlement of 11 tupics.

32-8  $\frac{8}{50}$  ✓ Do. Eastern part.

32-11  $\frac{8}{25}$  ✓ ~~Ulugset~~ Ulugset. Aviangooneq (ananiki's sister, Tungniki's wife) laying out fair of kamiks for Captain Coker  
 (to be made) 

32-12  $\frac{8}{25}$  ✓ Ulugset. Group of women and children in front of tukic - Ivaluk with small baby.

33-1  $\frac{8}{25}$  ✓ Ulugset. Igloo in process of construction. Front view

33-2  $\frac{8}{25}$  ✓ Do. Interior.

two-family

33.3  $\frac{9}{25}$  Klugset. Large igloo in process  
of construction - Tongwiti + Inahiti

25. III - See p. 30.

29. III Eider Duck Island - Gray feld-  
spathic gneiss inclosing rounded masses  
of hornblendeic gneiss. Excellent example  
of an igneous gneiss carrying magmatic  
inclusions of an older gneiss which have  
been rounded by resorption. Highest  
point of the island is 60-75 feet above  
the sea. This and other points have been  
rounded and smoothed by the grinding  
action of the sea ice and many other  
smoothed surfaces indicate abrasion  
by the ice. The gneiss is intersected by many  
veins of pegmatite. These consist mainly  
of feldspar and some are strong - 1 to 2 ft  
across.

Dalrymple Rock. Landed on the eastern  
side. Strongly contorted gneiss of different  
aspect from that of Eider Duck Island. Pre-  
dominantly a gray feldspathic gneiss  
with numerous great veins of coarse peg-  
matite consisting principally of feldspar.  
The feldspar pegmatite breaks down  
under the action of the frost more rap-  
idly than the gneissic country rock,  
shallow trenches being formed thus.

Saw one string of magmatic inclusions of Hornblende gneiss showing resorption edges. Three or four of the included masses formed the series. Surface of Dalerupple Rock is very jagged and broken, but the points up to a height of 60 feet above the sea (as high as we climbed - on a side knoll) have been <sup>slightly</sup> smoothed and rounded by ice action.

30 August - Western (sec. 4) front of Saunders Is. "Knud's Harbor". Cliffs are remarkable for their verticality. Go down sheer into the water. Collected specimens of the purplish pink rock which on near view looks more like limestone than it does like the quartzite or sandstone that I have supposed it to be. Is easily scratched with knife blade. Dark gray is shall light gray sections more like an impure limestone or calcareous shale - specimen.

11 September - Spotted or crustose fish seen. 43 <sup>no</sup> 900

15 September - Etah. Collected ctenophores in front of house and am trying to preserve them. Got two species of Colliaria or a related genus one <sup>(common)</sup> with contracted top and tentacles six or eight times as long as the body, the other with more expanded top and much shorter the tentacles. Bodies  $1\frac{1}{4}$ " across.

At least two species of Beroë. One looks like a nose-pink musketon of all sizes up to about three inches in diam. as it floats in the bay. Seen usually to float with infrundibulum up and mouth down. lying in the tray, the shape is that of a cucumber and the largest specimens obtained measure  $4\frac{1}{2}$ ,  $4\frac{3}{4}$ , 5 inches long and  $1\frac{3}{8}$  -  $1\frac{3}{4}$  inches across. Infrundibular end is rounded, oral end somewhat contracted so that the mouth is not bell shaped as in figure of Beroë forskalii of p. 211 of Textbook of Zool. vol. I. Parker & Haswell. Common another form, represented by one specimen, is smoke brown in color, broader in proportion to length, when compared with preceding, and mouth is more effused.

Collected one specimen of a large (7 $\frac{1}{2}$  inches) Beroë (?) cucumber-shaped form which was perfectly colorless except for a dark brown lump at the infrundibular end of the moss. This was more delicate than the other forms and was torn to pieces in transportation and transferred with inadequate tools.

These nose pink Beroë's are strongly phosphorescent. "Akpiasuah"

Another common coelenterate is a bell shaped animal 1-1 $\frac{1}{4}$ " high by ~~1~~  $\frac{1}{2}$  -  $\frac{3}{4}$ " across. Flaring mouth with fringe. Animal is very active, swimming by contracting the body and forcing water out through the mouth. Delicate burnt orange color in body and darker in fringe. Also lots of "anik", a little pteropod (?)

17 Sept. Saw four jellyfish today - two Calycina and two Brechia.

18 Sept. Got two medium sized (3" long) Brechia today - Saw no more.

18 Sept. <sup>sooty</sup> Differ marked sandstone and quartzite Capo gneiss, beginning about 3700 feet above the sea. Seems to have nor-  
thly dip. Strong green layer which epidiorized & chloritized, though the color suggests copper. Prob. chlorite.

Just above this is a zone of cherty material in an impure limestone. [That is, the rock has weathered away from the chert and is readily ~~can't~~ scratched with a knife but it does not effervesce under strong HNO<sub>3</sub>. We have no HCl.] Differential weathering pronounced and some of the lumps look like masses of Stromatopora. Specimens 692 + 693.

Above Provision Point and from 100' to 150' above the sea there is a considerable area of gneiss which shows the characteristic rounding, smoothing and grooving which are due to glacial action. Motion was from north-east parallel or nearly so to a line of fjord. Surface is now covered with black boulders, but the striation is perfectly visible.

21 Sept. Went along ~~so~~<sup>north</sup> shore of fjord for about a mile east of Head waters. The great pile of gravel and boulders near the foot of which the house stands looks like an accumulation of torrent débris and presents three elevated strand lines or beaches above the sea. Surface is mostly rounded and smoothed boulders some of which are 3 feet in diameter. Pink feldspathic gneiss predominates, but there are many boulders of black hornblende gneiss mingled with them. This delta fan is about a half mile broad at sea level. Mac thinks it is a glacial moraine, or a cairn of the boulders on top, but I think that the fine material has been washed out leaving the boulders. I have not yet observed

ed stratification in the walls of the great gully cut by the present stream. This gully shows the big boulders on the surface of its bottom and has raised borders. Considerable water comes down here in the summer season.

About a half mile east of the house we encounter the massive gneiss forming the shore for a half mile, more or less. This is a pink feldspathic rock, containing many bands of hornblendic gneiss, the latter being intersected by countless veins of coarse feldspar and quartz, feldspar predominating. Projecting points are rounded and have been smoothed by ice action. Perhaps this can be correlated with the glacially smoothed and striated surface on Provision Point (see p. 36).

22 Sept. advancing up the fjord the hornblendic gneiss increases in proportion and seems to be the only or predominating rock from 1½ miles.

23 Sept. Lx. 30.7 8/25<sup>th</sup>. Glacially rounded boulders of gneiss above Provision Point. About 100 ft. above the sea. Looking ca N.

8/25 (?)

23.IX. Ex 30.8 ✓ Glacially rounded, smoothed and striated area of gneiss beyond and above Provision Point. 100 ft. t above sea. Looking ex N. by S.

30.9 8/25 ✓ Glacial grooves. Same region. Near view Looking S.W.

30.10 8/25 ✓ Same as 30.8

30.11 8/25 ✓ Glacially rounded surfaces of gneiss above next point west of Provision Point. Dark hornblendeic gneiss.

30.12 8/25 ✓ Front of valley floor ~~feel~~ floating of gravel and boulders - Near view. Solifluction? Half mile west of Provision Point.

31.1 8/25 ✓ Near view of small very smooth surface of gneiss which, like others in the vicinity, has been protected in some way (probably by a filling of gravel) from too much frost action. Point west of Provision Point

31.2 8/25 ✓ Headquarters and the gravel-boulder bank behind it, showing three elevated beaches above the house beach. From ledge above Provision Point.

25 Sept. Climbed with Mac to top of Thermometer Hill, forming western extremity of the northern side of Fouche Fjord. My aneroid gave elevation 1025 ft., his 1000. On his account a week ago he got a reading of 1050 ft. Thermometer wh. he left there a week ago gave min.  $8.9^{\circ}$  max  $34^{\circ}$ .

The cap. of the hill is a bed of diabase 30 to 40 feet thick. Specimens No. 694 & 695 (spec 696 was taken from bed of much decomposed diabase?) lying below the cap and perhaps separated from it by a bed or beds of quartzite.

Upper portions of Thermometer Hill show gravel & boulder streams or flows (solifluction) in exceptional development. 50-100 feet below summit on western side there is a well marked flow of this kind which seems to be 150-200 yds long and 20-40 yds wide, descending ~~sw~~ southward.

The rock illustrated by spec. 696 disintegrates into bullet-like gravel scattered through ferruginous yellowish brown sand and this mixture flows down hill like a stream or glacier.

The level portion of the hill 850-900 feet above sea is a regular quicksand or quagmire mixture of clayey matter & grits bits -

Kayak &  
walrus

Kannaki chasing bear and cub

Kahda fecit

4 October. 9x 31.3  $\frac{1}{8} / 35$  Looking out toward mouth of fjord from man house.

9x 31.4  $\frac{8}{35}$  ✓ Cove in front of house. Low tide, showing in a series of ice on partly destroyed ice foot.

7 October - Spec. 697. Quantite feasible from terrace near house - Shows brown burrows (?)

Rock - Stark Island is well grooved <sup>and rounded</sup> by glaciation.

25 October. Mac, Bob and I with the bush of Itukashin and the car in which set a line of stakes across Mother John's Glacier, about one-third mile from lower end - Perhaps 100 ft above the sea. Mac used to do glaciology and considered line to be normal to the axis of fjord and glacier. Stakes are ordinary inch gas pipe about 3' 6" long and are set in <sup>one</sup> or <sup>two</sup> holes 14 or 15 inches deep. There are 16 of the stakes and the intervening spaces measured from 50 to 100 yards in length. Outer stakes are on bank of steep sides of the glacier bordering the side valley. All are set in the tops of hummocks of solid ice. The surface of the glacier is extremely hummocky, there being

scarcely any level surfaces to be seen - There is a large river channel near the ~~west~~ northern border of the glacier which is the bed of a considerable stream during the summer. Hard walking on the uneven ice without creepers, but we got along fairly well when we kept the bottoms of our kamiks free from snow. I tried some hot-nailed wading moccasins that had been brought up with the idea that they would be useful in protecting kamiks on rock work, but they were of little use.

Captain Gomes determined the ice to be  $2\frac{3}{4}$  inches thick and the water about 12 feet deep at a distance of 10-75 feet from the front of the glacier.

Largest trout (salmon trout) caught to day measures  $2\frac{1}{3}$ " long & weighs  $5\frac{3}{4}$  lbs. It was caught by Ahnivah.

Ice cracked frequently under some pressure - probably both from the glacier and inflow of water. To be investigated.

Kahdd caught a little trout that seemed to have much larger fins proportionately than the other fish.

Spec. 698

26 October - Thawed out, wrapped in cheese cloth and placed in 75% alcohol in a 5 gal milk can

43

the trout caught yesterday by Kahlba and  
four salmon trout brought back by the  
Eskimos from their fall caribou hunt.  
These were caught in a small un-  
charted lake a short distance inland  
from Advance Bay, Greenland, in lat.  
79° 8' N., just south of Humboldt  
Glacier. The fins have become  
somewhat damaged during trans-  
portation in a frozen condition,  
but these fish come from the most no-  
thern locality thus far reported  
in Greenland itself, and they are  
preserved for identification.

25 October Spec. 699. Fossils taken from  
womb of seal killed through the ice  
of Bancroft Bay, Greenland, on 15  
October, 1916, by Akputishao.  
Placed in 10% formaldehyde. Trans-  
ferred to 75% alcohol on 31 October.

Spec. 700. Decapod (squid or cuttle  
fish) collected by Accomodingwah  
on the beach at Head of Foulke Fjord  
on 11 (or 10?) September and bought  
in by Panikpa. Placed first in  
50% alcohol, later strengthened  
to 80% alcohol in which it now is.  
N. B. Full information given on 1 Nov  
by Kuepingwah (Aisson) who says these  
are common.

Spec. 701. Beroë, Collinson to see pp-  
33-35 of this book.

5 Feb., 1917-Radcliffe Island i.e. the  
first and largest of the three islands  
bearing south sides of the main  
glacier - as of the last glacial great  
colluvium of mainly granitic veins.  
Much granite mixed with small  
pebbles occurs on the island. The  
exposed rock ledges are well groov-  
ed and striated glacially. Movement  
of ice apparently from northeast.  
The proportion of rock exposed is  
less than on Starr Island. More gravel.

9 Feb. Visited Brother John's Glacier.  
Ice of lake moves some advance of nor-  
thern portion of glacier during the winter.  
Ten to thirty feet in front of the glacier a ridge  
of lake ice has been raised roughly parallel  
to the front of the glacier. Where largest this  
ridge is approximately ten feet high, with  
sides sloping at  $45^{\circ}$ . This would indicate  
a crude estimate of 8 feet of forward  
motion in the past 100 days, or about 1 in  
per day. The ice is broken at the top of the  
arch. It rose from the surface of the lake  
and left an open space. Roof is per-  
haps 1.5 inches thick. Mac tells me

that he and Ekblaw entered the open arch or grotto thus formed in 1915. They could stand upright in it. Four could easily have stood there then. He took photos.

Note on Pernet camera. Speed 6 seems to be about the same as speed 4 of Graflex  $\therefore$  aperture 4 cm speed 6 of Pernet gives an  $1/2.5$  sec. exposure  $7 \frac{1}{2} \frac{1}{2} = \text{ca. u.s. 10}$ ;  $(316 = 16)$ ;  $\underline{18} = 20$ ;  $(20 = 24)$ ;  $\underline{725} = \text{ca. u.s. 39}$ ;  $(32 = 64)$ ;  $\underline{36} = 84$ ;  $(128 = 45)$   $\underline{750} = \text{u.s. 160.}$

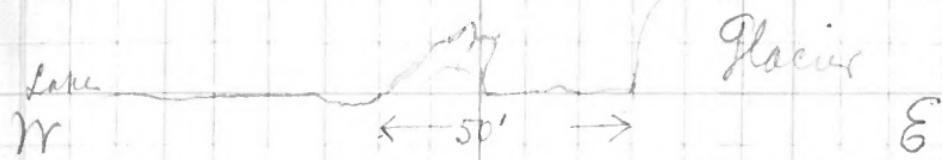
The plate exposures of  $12 \frac{1}{2} / 4 / 6$  ( $= 10/25$ ) on Parker Snow Point and of  $18 / 4 / 6$  ( $= 20/25$ ) on Ekblaw Glacier nearer on 11. IX. 1915 gave very good results. We were only three or four miles distant (perhaps less) when these views were taken. Film exposures of same diaphragms and times on more distant mountains and ice masses a month previously were too great.

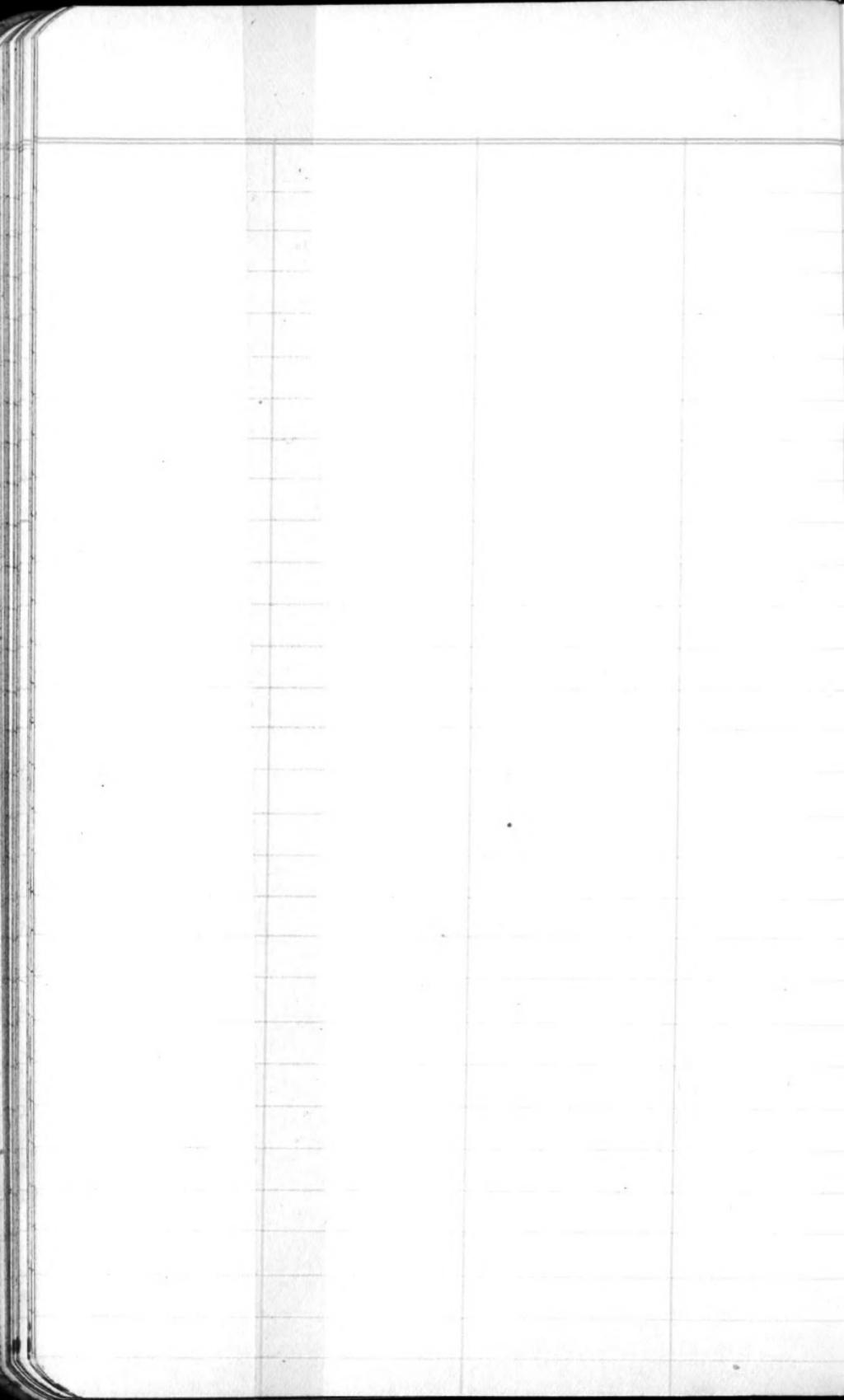
approximate table (compared with graflex)

	1 cm	2 cm	4 cm
lens dia. 6	$\frac{1}{95}$	$\frac{1}{75}$	$\frac{1}{2.5}$
1	$9 \frac{1}{295}$	$\frac{1}{90}$	$\frac{1}{35}$

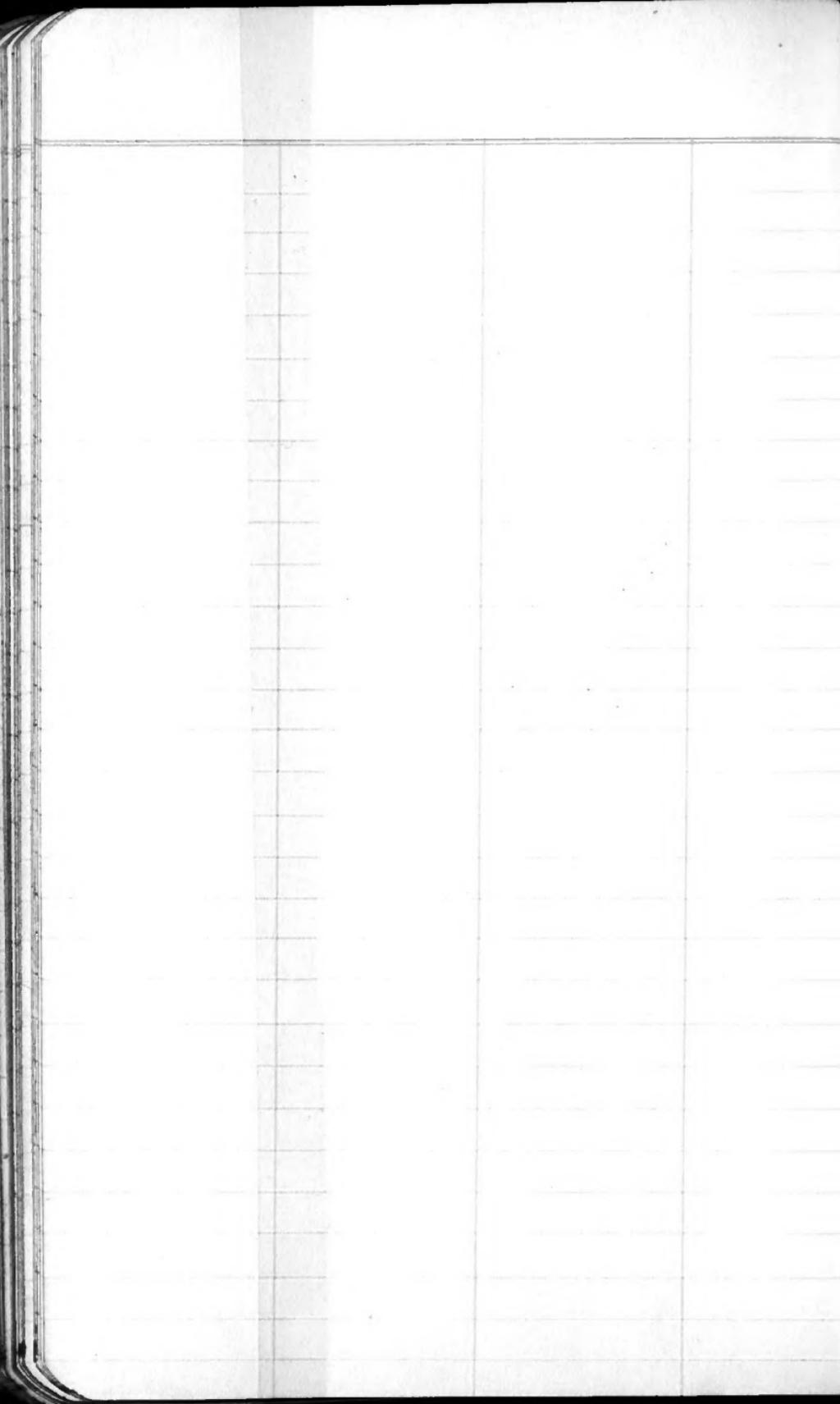
7 March Visited Brother John's glacier. Visited line of stakes but could not be sure from unaided eye observation that there has been any movement. A stake in the embankment of the southern half of the lake is on average to be factors back than the others, but this may be due to a diagonal setting.

At the back a second ridge has risen south of that noted on 11-46. This is larger, longer and higher, the crest being 15 feet above level of lake ice in its highest part. The stoss (glacier) side of the ridge shows beautifully the direction from which the pressure came, being flexed back at top to and beyond the vertical. On the distal side of the ridge the ice has been ~~beaten~~ down below the general level of the lake surface forming an open hollow 1.5-2 ft deep. A similar hollow was formed on the proximal side of the ridge, but water got in and it is now full of new ice. This ridge extends from the north to or beyond the middle of the front of the glacier. Apparently, it is the result of movement which has taken place within the last four weeks, amounting to at least 10 feet horizontally. Relations are approximately as represented in the following section -





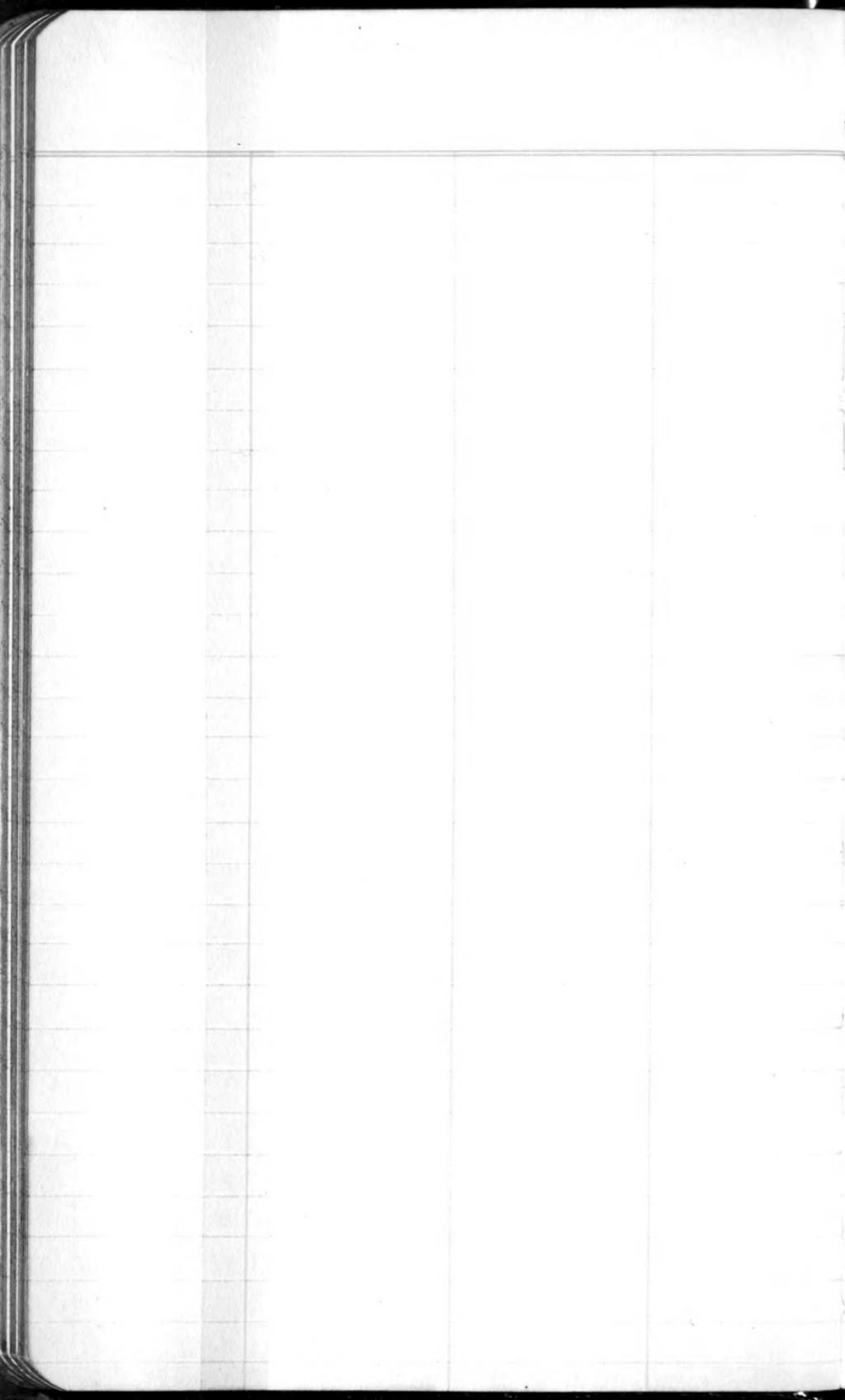




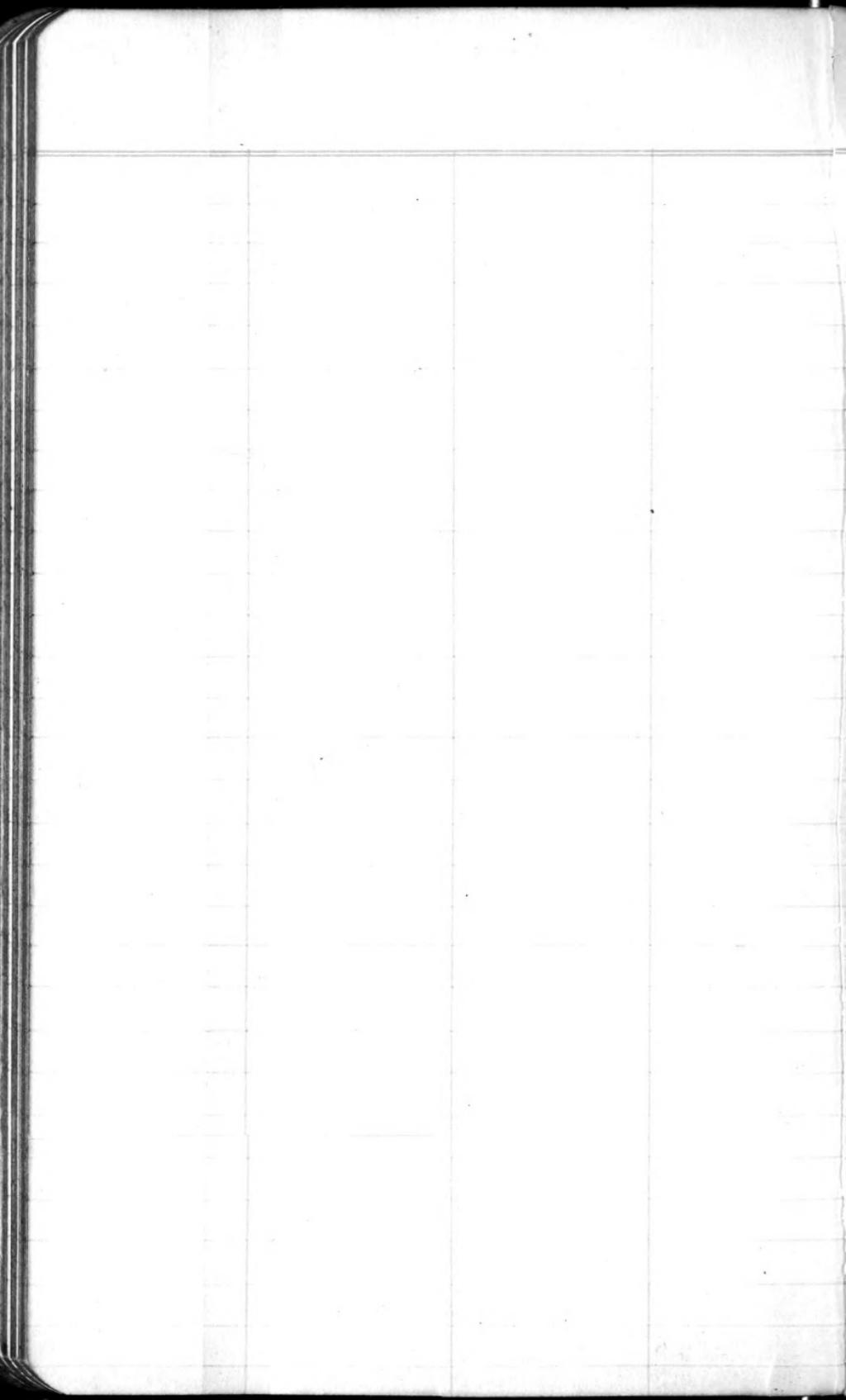








1	2	3	4	5		
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



1916

111

January

S	M	T	W	T	F	S
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April

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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

February

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29				

May

1	2	3	4	5	6	
7	8	9	10	11	12	13
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28	29	30	31			

March

1	2	3	4			
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June

1	2	3				
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July

1						
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August

1	2	3	4	5		
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Courses across Melville Bay  
(H. C. Pickels)

Cape York to Cape Seddon

True	8 by S $\frac{1}{2}$ S	$= 107^\circ$	True
	Geogr. mi.		Statute mi.
Magnetic	1 <sup>st</sup> 20 miles	197°	22 $\frac{1}{2}$
2 <sup>d</sup>	20 "	195°30'	22 $\frac{1}{2}$
3 <sup>d</sup>	20 "	194°	22 $\frac{1}{2}$
4 <sup>d</sup>	20 "	193°	22 $\frac{1}{2}$
5 <sup>d</sup>	20 "	192°	22 $\frac{1}{2}$
6 <sup>d</sup>	20 "	191°	22 $\frac{1}{2}$
Last	10 "	190°	11 $\frac{1}{4}$

Dist. C. Y. - C. S. 130 geogr. = 150 statute mi.

Cape Melville to Cape Seddon

True	S.E. by E. 3/4 E	True = 116°
	Geogr. mi.	Statute mi.
Magnetic	1 <sup>st</sup> 20 mi.	206°
2 <sup>d</sup>	20 "	204°30'
3 <sup>d</sup>	20 "	203°
4 <sup>d</sup>	20 "	202°
5 <sup>d</sup>	20 "	201°
Last	5 "	200°
		6

Dist. C. M. - C. S. 105 geogr. = 121 statute mi



Courses across Melville Bay - H.C.P.

Cape York to Cape Seddon.

True =  $107^\circ$  = E. by S.  $\frac{1}{2}$  S.

Magnetic

1<sup>st</sup> 40 mi.  $197^\circ$  = 45 statute mi.

2<sup>nd</sup> 40 mi  $194^\circ$  45 " "

3<sup>rd</sup> 40 mi  $192^\circ$  45 " "

Last 10 mi  $190^\circ$  11 " "

Dist. C.Y. to C.S. 130 (150) miles.

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Cape Melville to Cape Seddon.

True =  $116^\circ$  = S.E. by E.  $\frac{3}{4}$  E.

Magnetic

1<sup>st</sup> 20 mi.  $206^\circ$  = 23 statute mi.

2<sup>nd</sup> 40 mi  $203^\circ$  45 " "

3<sup>rd</sup> 40 mi  $201^\circ$  45 " "

Last 5 mi  $200^\circ$  6 " "

Dist. C.M. to C.S. 105 (121) miles.

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Note. The record of the daily "runs" of the "Clunet" from her position off Devil's Throat around to Cape Melville totals 128 miles.

That from off Flann Island to off Cape Melville totals only 54 miles

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